

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. of:	Gene A. Bornzin	}	Group Art Unit: 335
Serial No:	323,507		Docket No: P-552
Filed:	23 November 1981		Examiner: W. Kamm
For:	A RATE ADAPTIVE DEMAND PACEMAKER		Date: February 1, 1984

Honorable Commissioner of Patents & Trademarks
United States Patent & Trademark Office
Washington, DC 20231

Dear Sir:

PRIOR ART STATEMENT

Applicant cites the following references as potentially relevant to the prosecution of the above application.

*all
Art cited
Covered
24 Feb 84
WKL*

U.S. Patent No. 4,313,442 issued to Knudson et al is cited as it discloses a pacer which varies ventricular rate in response to sensed changes in atrial rate. This reference is believed no more pertinent than U.S. Patent No. 3,648,707 issued to Greatbatch et al, previously cited by the Examiner.

The article "Relation Between QT Interval and Heart Rate New Design of Physiologically Adaptive Cardiac Pacemaker" by A. F. Rickards et al, published in the January 1981 edition of the British Heart Journal, Vol. 45, pp. 56-61 is cited as it describes the use of measured QT intervals to set the subsequent pacemaker escape interval.

The article "Frequenzsteuerung von Schrittmachern durch Bluttemperatur" by Weisswange et al, published in the Journal Deutsche Gesellschaft Fuer Kreislaufforschung, Vol. 44, 1978 is cited as it discloses the use of blood temperature to vary the rate of a pacemaker.

The abstract "An 'On Demand Pacemaker' Responsive To Respiration Rate" by Ionescu is cited as it discusses a

pacemaker in which respiration rate is used to alter pacing rate.

The article "Ein Herzschrittmacher mit belastungsabhängiger Frequenzregulation" by H. D. Funke, published in Biomedizinische Technik, Band 20, Heft 6/1975 is cited as it discusses a pacemaker in which respiration rate is used to vary pacing rate.

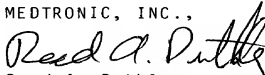
The abstract "Results, Problems and Perspectives in the Autoregulating Pacemaker" by Cammilli et al, published in the May-June 1980 edition of Pace Magazine is cited because it discusses a pacemaker in which pH was somehow used to effect the pacing rate of a pacemaker.

The article "A Physiologically Controlled Cardiac Pacemaker" by J. L. Krasner et al, published in the Journal of the American Association for Medical Instrumentation, Vol. 1, No. 3, November/December 1966 is cited as it discusses the use of respiration rate to vary pacing rate.

The article "A New Pacemaker Autoregulating the Rate of Pacing in Relation to Metabolic Needs", by Cammilli, et al, published in the Proceedings of the 5th International Symposium, 1976 Tokyo, is cited as it discusses a pacemaker in which rate varies with pH.

Respectfully submitted,

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